

Project Management Road Trip®

**For the Project Management
Professional®**



**Your Key to PMP
Certification
and Understanding the
PMBOK® Fourth Edition**

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www.PMRoadTrip.com

*Project Management Road Trip for the Project Management Professional:
Your Key to PMP Certification and Understanding the PMBOK Fourth Edition*

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12.0 Project procurement management

Chapter Difficulty

Easy

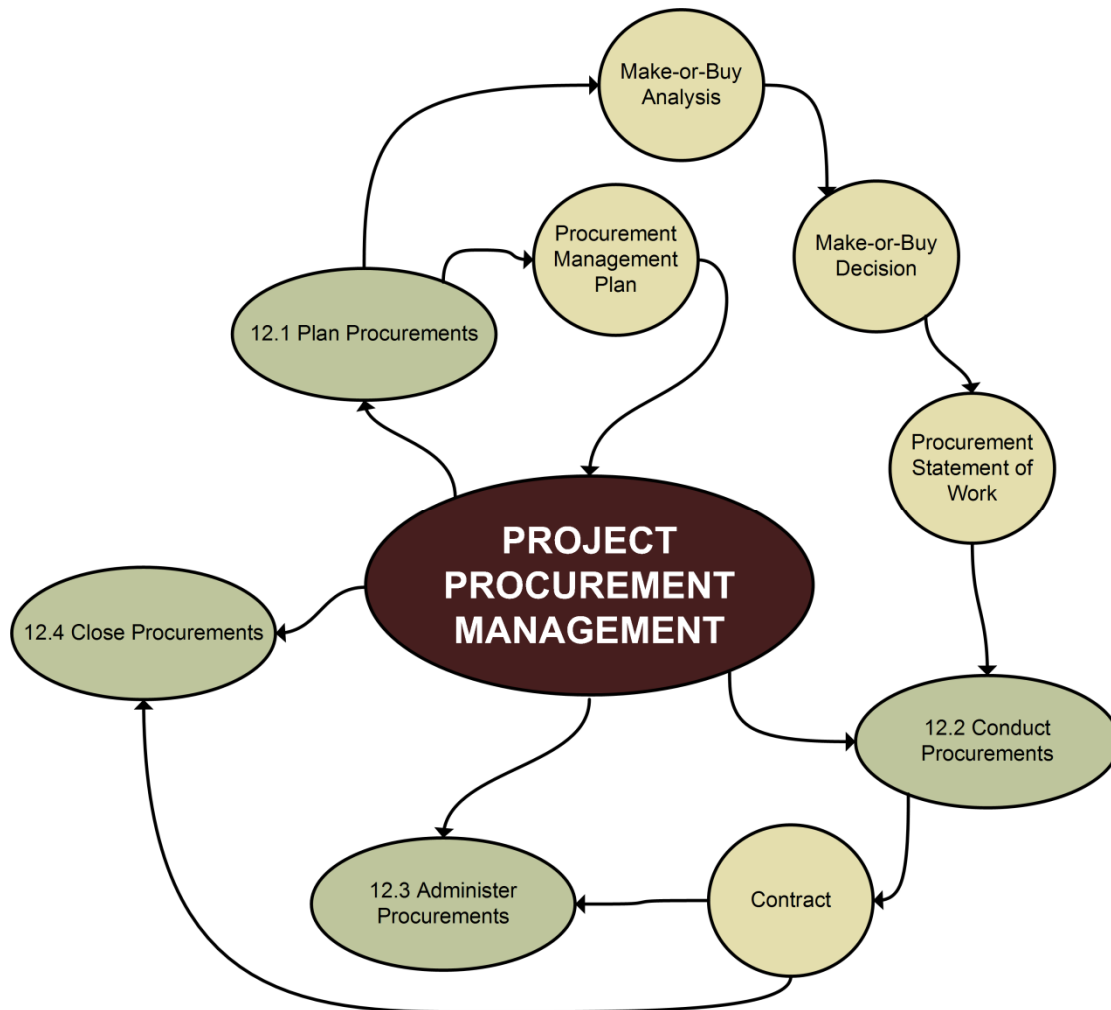
Moderate

Hard

Activities in the **Project Procurement Management** knowledge area evaluate the project's needs for goods and services, and determines whether those needs will be met by the project team or by outside resources.



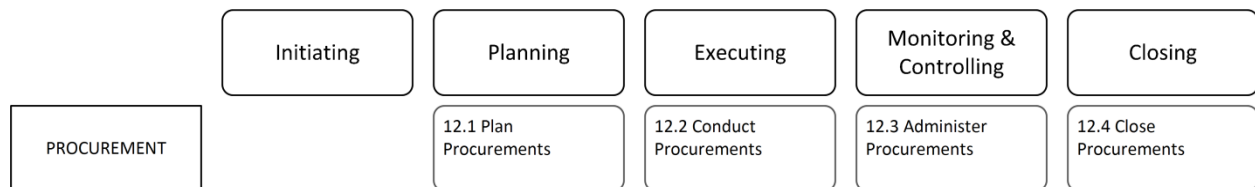
For needs that will be purchased, further activities will be performed that ensure the procurement is properly defined, sellers are objectively evaluated, and a proper contract is established and well managed.



Keywords

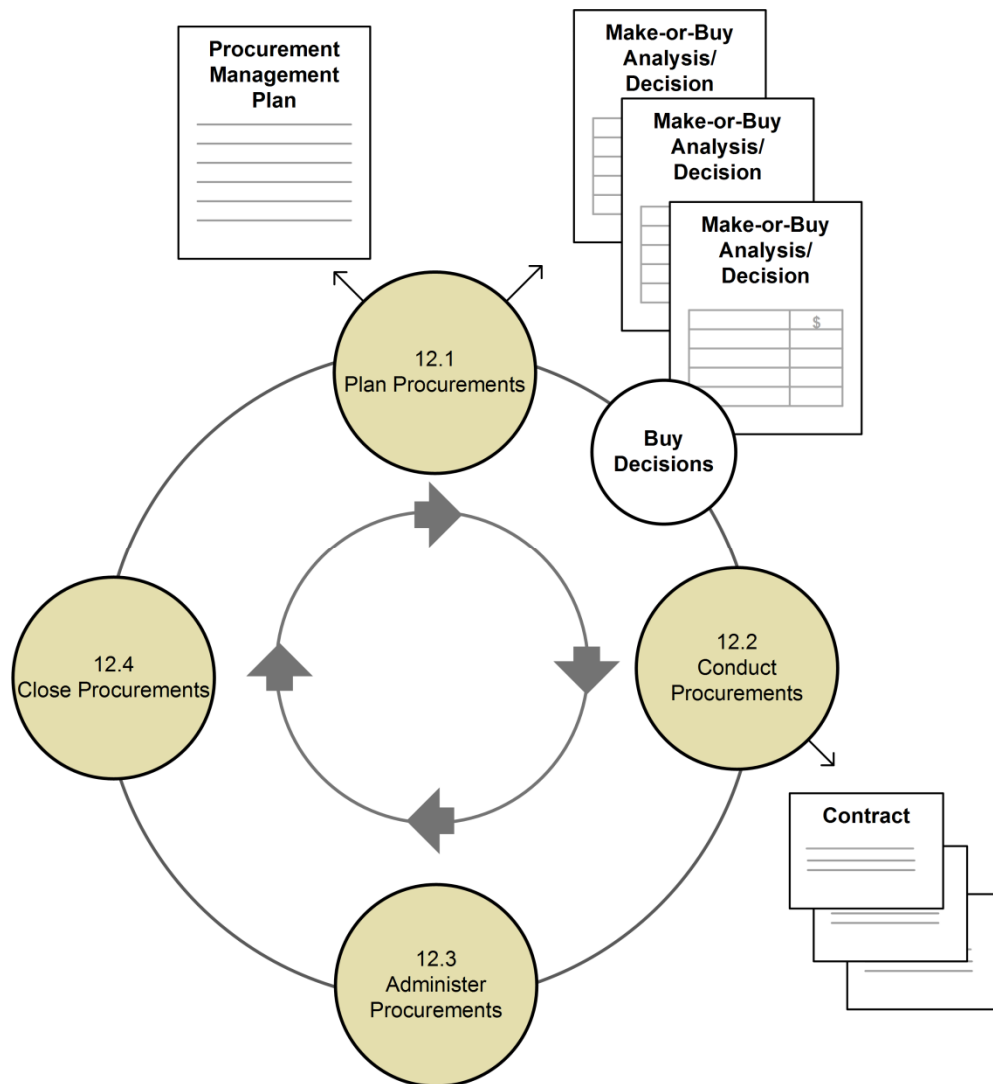
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|--|---|
| <input type="checkbox"/> bidder conferences | <input type="checkbox"/> procurement audit |
| <input type="checkbox"/> breach | <input type="checkbox"/> procurement management plan |
| <input type="checkbox"/> claim | <input type="checkbox"/> procurement performance review |
| <input type="checkbox"/> consideration | <input type="checkbox"/> procurement statement of work |
| <input type="checkbox"/> contract | <input type="checkbox"/> qualified sellers list |
| <input type="checkbox"/> contract change control system | <input type="checkbox"/> records management system |
| <input type="checkbox"/> contract file | <input type="checkbox"/> screening system |
| <input type="checkbox"/> cost reimbursable contract | <input type="checkbox"/> seller rating system |
| <input type="checkbox"/> fixed price contract | <input type="checkbox"/> single source/single seller |
| <input type="checkbox"/> independent estimate | <input type="checkbox"/> sole source/sole seller |
| <input type="checkbox"/> make-or-buy analysis | <input type="checkbox"/> teaming agreements |
| <input type="checkbox"/> oligopoly | <input type="checkbox"/> time and materials contract |
| <input type="checkbox"/> point of total assumption (PTA) | <input type="checkbox"/> unilateral contract |

Overview

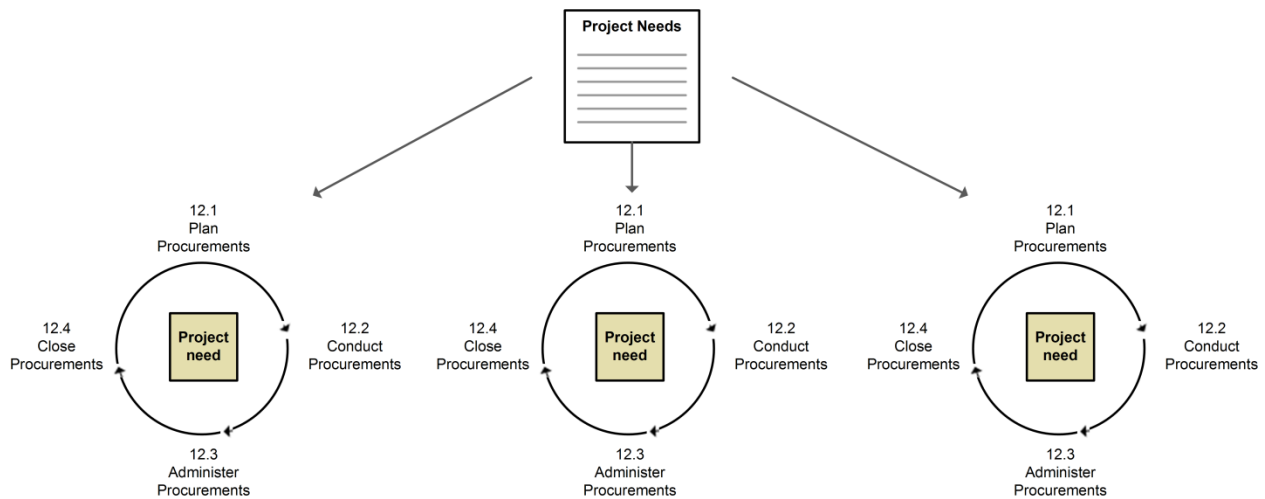


The approach taken with procurement is a very formal one because poor decisions or ineffective management can lead to costly mistakes, schedule problems, and quality issues. The project team is responsible for determining how rigorous the processes need to be while also making sure that the procurement needs of the project are managed within the overriding purchasing policies and procedures of the organization.

In order for the project's objectives to be achieved, materiel, supplies, resources, results, or solutions may need to be purchased. But the first step is to determine whether the project team can meet the need or whether the need is best met by an entity outside the project. So project procurement begins with a thorough inventory of *every* good, service, or result needed by the project, followed by a make-or-buy analysis and decision. For “make” decisions, the activities and resources needed to produce the good, service, or result will become part of the project management plan. For “buy” decisions, additional procurement processes will be undertaken that solicit and evaluate sellers, establish contracts, and manage the buyer-seller relationship



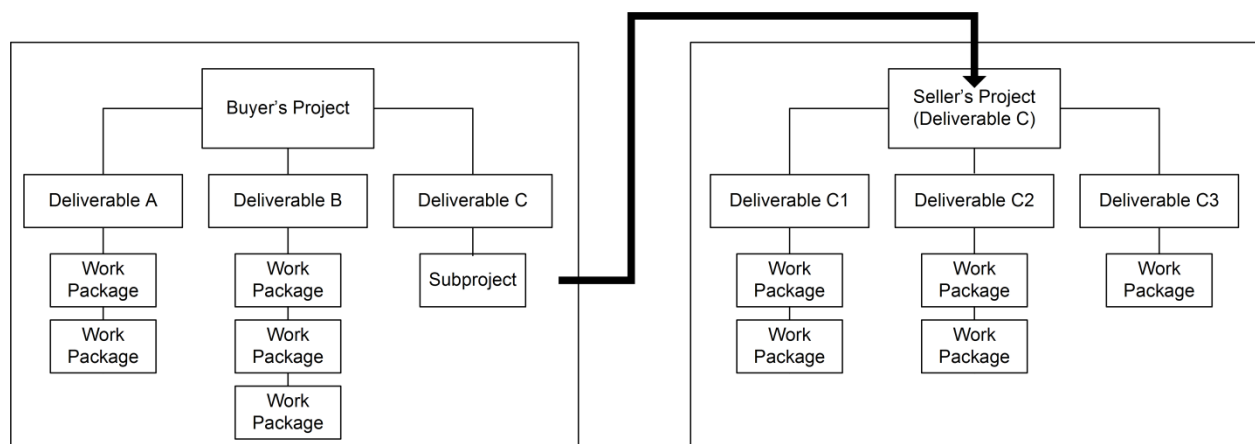
It's important for us to realize that the procurement processes occur for each project need, and in projects that are meeting needs through multiple outside sources, there can be several procurement processes going on simultaneously but in different procurement phases.



Buyer and seller roles

In the project procurement processes the **buyer** is the entity acquiring the product, service, or result, and the **seller** is the one meeting the buyer's need. In nearly all projects, the *buyer* refers to the collective team composed of the project manager, project management team, organizational management, stakeholders, and those titled personnel in charge of procurement, such as the purchasing department.

When the project need involves expertise –something beyond just finished goods-- the need being outsourced is treated as a subproject within the buyer's project management plan while the seller will develop its own full project management plan for achieving the buyer's objectives.



Contracts

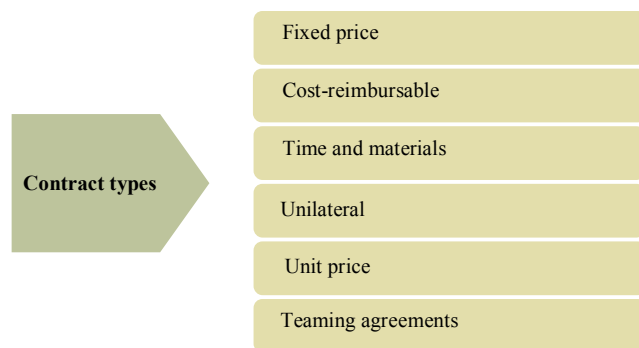
A **contract** is what creates the buyer-seller relationship, and it's a legally enforceable agreement between two or more parties that establishes the obligations each party has agreed to. There are a few key elements that differentiate a contract, which is enforceable, from an everyday agreement, which is difficult to enforce. First, a contract cannot be for illegal activities. Second, an offer has to be made by the buyer and then it has to be accepted by the seller, and third, something of value (usually money) has to be exchanged. This “something of value” is called the *consideration*, and at the time the contract is accepted the consideration doesn't actually have to be physically exchanged --only promised.

Contracts can be established verbally; however, some forms of contracts are enforceable only when executed in written form, and a verbal contract is prone to misunderstandings, and misunderstandings can lead one party to believe the other isn't holding up its end of the bargain. Whenever a party fails to honor its contractual obligations, a **breach** has occurred. It's often litigious, expensive, and lengthy for one party to establish that a breach has definitively occurred; therefore the view towards project contracts should be that they are approached formally, in written form, and explicitly describe the goods, services, or result and all the obligations and responsibilities of the buyer and seller.

Contract types

The financial arrangements of the contract depend on many factors. Some types of goods and services naturally lend themselves to certain types of contracts. For example, professional services, like architects, tend to use contracts involving hourly rates. Another factor is the level of uncertainty in the work needed. Potential sellers are not going to quote a flat fee for a job that contains too many unknown factors because it will be the one who ends up absorbing those costs. So any abnormal amount of uncertainty in the requirements, work needed, or time involvement bears a price. The amount of uncertainty in how to meet the need is the predominant factor that determines the type of contracts a buyer and seller are willing to accept.

An Australian government investigation into a failed \$64 million project failure found fault in the procurement processes. There were 34 versions of the contract, 129 formal changes, and the number of deliverables included in the contract changed from 204 to 365.¹





Fixed price

A **fixed price** contract is for a product, service, or result at a specified flat price. This type of contract is an option only if the extent of the work, time involved, and material needs can be accurately described and costs reasonably estimated since no seller will want to establish a contract price if it can't accurately determine the estimated time and effort. Fixed price contracts are the simplest to establish and manage, but they require explicit details and full requirements about the product, service, or result needed since the seller assumes the risk of absorbing any cost overruns. Because of that risk, the seller has to include an adequate margin to absorb any unexpected costs, so the buyer may end up paying slightly more.

Also Known As

FFP (firm fixed price)
Fixed fee
Lump sum
Flat fee

Considerations

	Buyer	Seller
Overall Risk		
Pros	<ul style="list-style-type: none"> ▪ Easiest to manage. ▪ Easier to budget for since expense is known. 	<ul style="list-style-type: none"> ▪ Easier to budget income for since it is known.
Cons	<ul style="list-style-type: none"> ▪ Requires explicit statement of work. ▪ If market or labor prices decrease, buyer's cost doesn't decrease. 	<ul style="list-style-type: none"> ▪ Requires rigorous oversight of expenses and labor. ▪ Requires strict contract change management and control procedures. ▪ If market or labor prices increase, seller's price can't be increased.

Mitigating Risks

Fixed pricing arrangements can be combined with other types of contracts to even out the risks for both the buyer and seller. There are also many variations of fixed price contracts that can be used to minimize risks:



- **Fixed price with incentives (FPI):** This arrangement includes additional financial incentives that are tied to the seller achieving specific objectives. Incentives can be based on schedule, performance, quality, or any other measures.
- **Fixed price with economic price adjustments (FPEPA):** This contract has specific conditions or scheduled periods during which the fixed price baseline may be adjusted based on market conditions.
- **Fixed price, level of effort (FPLOE):** A level of effort contract is still a fixed price, but it includes a requirement that the seller expend at least a specific amount of effort. For example, in a research and development project, the buyer agrees to a \$50,000 flat price and the seller agrees that its contractors will devote 1,000 hours of effort.
- **Fixed price with prospective price redetermination (FPPPR):** This arrangement is a “staged” fixed price contract where the fixed price for each stage is negotiated, possibly based on past performance.

Cost-reimbursable**Also Known As**
Cost plus

In a **cost-reimbursable** contract the buyer pays the actual incurred costs plus a margin to the seller. The reimbursed costs will be direct costs, like material, but will not usually include indirect costs. What types of costs will be reimbursed are spelled out in the contract. There may also be an additional percentage on top of actual costs to cover administrative expenses. The margin is what represents the seller's profit, and it can be either a fixed amount or a percentage of actual costs.

Considerations

Cost-reimbursable contracts are appropriate when there's a high level of uncertainty in what will be required to provide the contracted product, service, or result. The buyer is the one who bears the risk of cost overruns, and cost-reimbursable contracts also involve more administration from both buyer and seller since there has to be some method of submitting, validating, and auditing of actual costs. Contracts in which the seller's fee is based on a percentage of actual costs can be especially risky because this is a built-in incentive against the seller keeping costs low.

	Buyer	Seller
Overall Risk		
Pros	<ul style="list-style-type: none"> Usually allows for more flexibility in how objectives are met. More adaptable to changing market conditions. 	<ul style="list-style-type: none"> Less rigorous change control. A well-managed cost-reimbursable contract may result better buyer-seller partnership on future needs.
Cons	<ul style="list-style-type: none"> The seller may have few incentives to keep costs low. More difficult to accurately budget for. Requires more rigorous management of the contract. Rigorous internal change control needed so that scope creep doesn't result in unplanned seller costs. 	<ul style="list-style-type: none"> A high level of transparency is needed with the buyer on costs. Requires regular communication with the buyer, especially on cost variances or trends that show increases.

Mitigating Risks

There are some common approaches the buyer can use to keep the project timeline and expenses from getting out of control:



- **Cost-reimbursable with ceiling:** In this arrangement, costs are reimbursed up to a maximum, agreed-upon level. This helps reduce the buyer's risk of cost overruns.
- **Cost-savings sharing:** In this contract, a budget is established for actual costs, and the buyer shares a portion of the unused budget with the seller at the conclusion of the project. This serves as an incentive for the seller to keep costs low.
- **Cost plus fixed fee (CPFF):** In this arrangement, the seller's profit is a flat fee, which serves as a motivator for the seller to keep the duration as short as possible. Since the seller earns the same amount of money if it takes three months or nine months, it makes fiscal sense to earn its profit in as short a time as possible so that the seller can move on to another job.
- **Cost plus incentive fee (CPIF):** In this contract, the seller's margin is tied specifically to its achievement of agreed-upon objectives.

Time and materials

In a **time and material** contract, the buyer is responsible for labor costs at an agreed-upon rate plus any ancillary costs the seller may incur. The labor rates include the seller's profit margin while the materials are usually billed at actual cost. Time and materials contracts are common in certain professional services, like legal, engineering, and architectural.

Also Known As
T & M
Hourly

Considerations

	Buyer	Seller
Overall Risk		
Pros	<ul style="list-style-type: none"> More transparency than other contracts in the seller's effort expended since bills are usually itemized. 	<ul style="list-style-type: none"> Less rigorous change control. A well-managed T&M contract may result better buyer-seller partnership on future needs.
Cons	<ul style="list-style-type: none"> The buyer may have insufficient input into the skill and experience level of the contractors, resulting in them spending more hours than is necessary to complete the objectives. Difficult to accurately budget for in the project. Milestones and objectives need to be managed closely. 	<ul style="list-style-type: none"> Requires regular and thorough communication to the buyer on progress.

Mitigating Risks

Just as with a cost-reimbursable contract, the buyer bears a high risk of schedule overruns resulting in extra labor costs. Incentives and caps can be incorporated into a T&M contract to reduce this risk.

Unilateral

All of the contracts we've discussed so far have been bilateral, meaning that there will be negotiation between the buyer and seller when the contract is established. The key identifier that a contract exists is that the buyer makes an offer, the seller accepts the offer, and that something of value is exchanged between the two. But there's a special class of contract in which the seller doesn't have to explicitly accept the offer in order for a contract to be established. This is a **unilateral contract**, and the best example is a purchase order.

When the buyer submits a purchase order to the seller, it has established an offer to buy goods or services from the seller. By simply fulfilling the purchase order, the seller has accepted the offer and a contract exists even though the seller did not formally acknowledge the buyer's offer (purchase order). The buyer cannot refuse to pay for the goods or services on the grounds that a contract didn't exist.







Unit price

A **unit price** contract is generally for products, materials, or other tangible goods that are bought in quantities at a fixed rate for a pre-determined quantity of goods. Unit price contracts can also have price breaks based on the quantities purchased. For example, the first 50 are at \$2 each and the second 50 are at \$1.75 each. A unit price contract could be considered a fixed price or a time and material contract depending upon how it's structured.

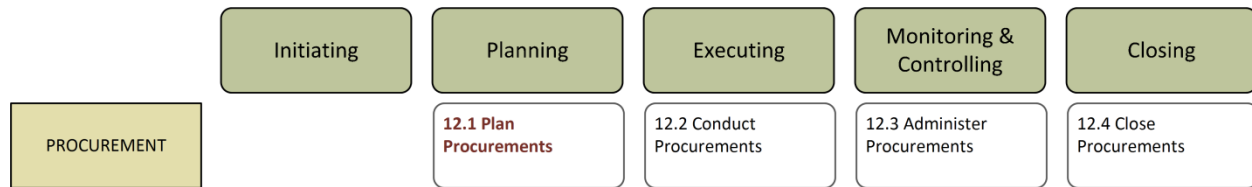
Teaming agreements

Organizations may need to partner with other entities to better exploit a business opportunity. These **teaming agreements** are contracts that establish a joint venture or similar agreement that offers business advantages for all parties. Teaming agreements are sometimes entered into by several smaller companies who can collectively meet a need which would be too large for any of them individually. These would not normally be undertaken as part of the project, but if they exist, teaming agreements may limit the project team's procurement options.

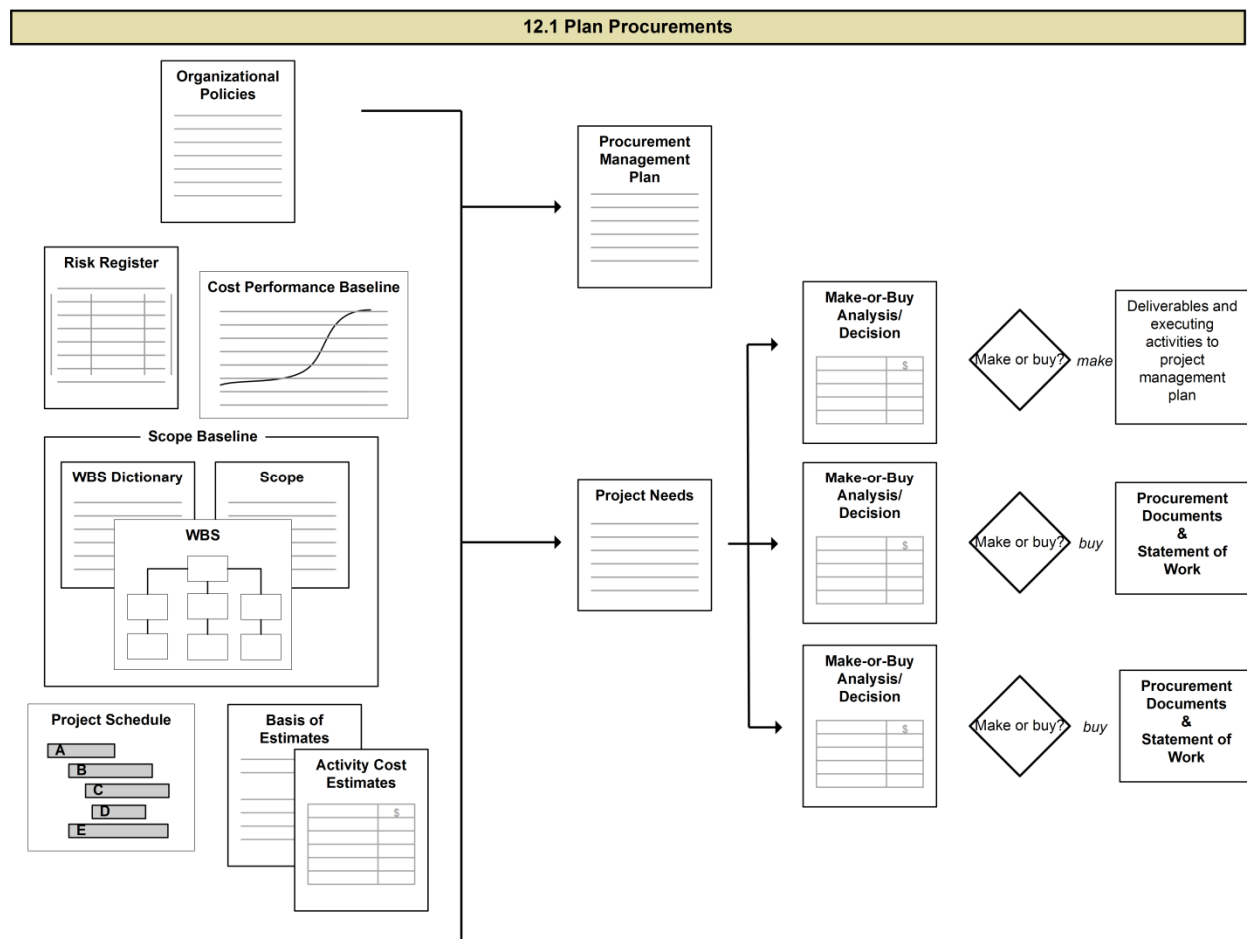
Risk level by contract type

Contract Type	Buyer Risk	Seller Risk
Fixed Price	Low 	High 
Cost Reimbursable	High 	Low 
Time and Materials	High 	Low 

12.1 Plan procurements



Activities in the **Plan Procurements** process encompass two main purposes: first, they create the procurement management plan; and second, the activities ensure that every need is evaluated to determine whether the product, service, or result will be built by the project team or whether it will be procured. There is only one procurement management plan created for the project, but the make-or-buy analysis occurs for all products, services, or results needed by the project.



- **Procurement Management Plan:** This component of the project management plan defines how the overall procurement needs of the project will be planned, executed, managed, monitored, and closed. There is one procurement management plan established for the entire project, so other than iterative planning and changes, this portion of the Plan Purchases and Acquisitions process occurs once.
- **Make-or-Buy Determination:** Each and every project need is analyzed and a decision is made as to who will supply the product, service, or result. If the product, service, or result will be handled by the

project team then appropriate activities and costs will be incorporated into the project management plan to execute meeting the need. If the need will be met by an outside source then further procurement processes are needed.

- **Procurement Documents:** When a need will be procured, the Plan Procurements process will establish:
 - the contract statement of work
 - the procurement documents
 - the evaluation and selection criteria to be used to select sellers

Procurement management plan

The **procurement management plan** is a component of the project management plan, and it establishes how all of the project procurement activities will be undertaken and managed. The exact details the procurement plan provides will depend upon the organization's requirements, the specific procurement needs of the project, and the complexity and cost of the purchasing involved. Even though the procurement management plan applies to the whole project, the unique needs and different procurement situations that may be encountered need to be considered and incorporated into the procurement management plan. For example, if past experience has shown difficulty in properly managing contractual obligations with certain types of sellers then the procurement plan should provide a high level of detail in what monitoring and controlling activities will be required if those types of vendors are utilized.

The procurement management plan also needs to include the policies and qualified seller lists that are required by the performing organization. And the project may also require that customer-specific procurement guidelines must be followed. For example, in projects where the U.S. Federal government is the buyer, the government agency will have its own procurement processes that will need adhered to, such as FAR or DFAR.

The procurement management plan typically includes:

- How make-or-buy analysis and decisions are to be made.
- What qualified seller lists will be used or how qualified seller lists will be created.
- The types of contracts allowed.
- The explicit procurement roles and responsibilities and levels of authority those roles have within the project and within the performing organization. These include who is responsible for approving and signing contracts, seller performance monitoring and reporting, payments, and purchase orders. If the performing organization doesn't have procurement personnel then the project management team will have to have the experience, knowledge, and skills to fill these project procurement roles.
- The procurement documents to be used, such as any standardized forms, and the formats for statements of work.
- The procedures for bid and proposal solicitation.
- When and how independent estimates will be gathered.
- Identified constraints and assumptions related to procurement processes.

- How sellers will be managed, performance monitored, and what reporting and frequency will be required.
- What insurance or performance bonds will be required and under what situations.
- Milestones that need established in contracts.
- What the procedures are for seller payments, vouchers, and reimbursements.
- How appropriate coordination between procurement processes and other project management processes (scope, time, cost, quality) will be ensured.
- The frequency, responsibility, and guidelines for procurement audits.

Make or buy analysis and determination

Each and every project need for a product, service, or result will be analyzed to determine whether it's best for it to be met by the project team or acquired from outside. Though *outside* usually refers to another organization, it doesn't exclude other divisions or business units within the performing organization from being contracted with to provide the product, service, or result.

A make-or-buy determination shouldn't be made without adequate analysis, on instinct alone, or based only on past precedents. Many projects fail when their cost or duration expands beyond their original estimate due solely to poor procurement decisions. A make-or-buy analysis helps to critically and objectively evaluate each need before a decision is made. Make-or-buy analysis should occur early during project planning and quickly as new needs are found because decisions made will have direct impacts on all other project management planning processes.

The specific details involved in a make-or-buy determination will vary, and there is no single, best way to approach it, but it's usually accomplished through three steps:

- **Identify:** Identify all the project needs for products, materiel, supplies, solutions, results, and services.
- **Analyze:** Gather the characteristics of the need, what objectives are important, and explore all possible methods to meet the need. This is referred to as a make-or-buy analysis.
- **Decide:** Assemble the appropriate people to review the analysis and make a determination.

Identify needs

Products, services, or results can be found through the project scope statement, activity list, activity attributes, the work breakdown structure and WBS dictionary, and the activity resource requirements. Which of those documents are initially available depend on what phase the project is in. Other components of the project management plan may also have less obvious needs that should be reviewed as well. The product, service, or result will need to be sufficiently scoped out so that a make-or-buy determination can be made. If the activities or resources involved aren't yet fully known, some effort will need spent to decompose the work package to an appropriate level so that estimates can be made.

The PMBOK does not suggest a way of organizing uncovered needs for the make-or-buy analysis and decision. One way of approaching the identification step is to produce a "needs register," similar to what was done with risks through the risk register, with an entry for each product, service, or result uncovered during the initial identification stage and as new needs are discovered.

After the make-or-buy analysis is completed and a decision has been made, the list can be sorted into:

- A list of needs the project team will handle, and which will need integrated into the project management plan (scope, cost, schedule, and quality);
- A list of procurement needs that will be met by parties outside the project. Procurement and related activities (like quality control) will also be incorporated into the project management plan, but most of the activities and resources needed to achieve the procurement objective will be in the seller's project management plan and not the buyer's project management plan.

Analysis and determination

Once identified, each project need will undergo varying levels of analysis. A **make-or-buy analysis** is a general management technique that considers both qualitative and quantitative factors to determine whether it's more efficient, less costly, or better quality to meet the need in-house or externally. This make-or-buy determination and rationale are documented in a document referred to as the **make-or-buy decision**.

The techniques involved in the analysis are specific to the procurement need because of:

- the product, service, or result needed;
- the priorities placed on different project objectives;
- the data available for analyzing the need;
- the long-term goals and needs of the organization;
- the skills, capabilities, expertise, and availability of the project team.

How a make-or-buy analysis is approached starts by strategically evaluating whether the need is a commodity or does it have value-added potential for the project. A commodity is anything that is readily available and is either acceptable (meeting the requirements) or it isn't; a value-added item includes benefits beyond meeting the core need. Products are likely to be commodities, and services or results are likely to be value-added, but this is not always the case; hence the need for a strategic evaluation. The reason this determination is important is because a make-or-buy analysis will often need to challenge inherent assumptions. For example, a software project led by I.T. might operate under the premise that the entire application needs developed in-house when it might be more efficient for some of the "commodity" programming to be outsourced and let the internal programmers focus on developing the value-added software components.

The project constraints and acceptance criteria are other factors the make-or-buy analysis needs to consider. The project scope statement, WBS dictionary, and other components of the project management plan may contain limiting factors or specialized acceptance criteria that limit make-or-buy options. For instance, even if more expensive, a buy decision might be reached if resource availability is low and the schedule is tight. Or a make decision could be chosen primarily because of cost constraints but the schedule is flexible enough to allow longer durations so the cost can be spread out over a longer period of time.

The make-or-buy analysis also needs to incorporate what options are available in the market place and from whom. The project need may be so unique and specialized that it doesn't exist in the marketplace at any price. Or the pool of available sellers may be limited either due to organizational policies or the market itself, resulting in a limited selection, usually at higher prices.

When evaluating the market place, there are three types of limitations that decrease the pool of available sellers:

Sole source/Sole seller: There is only one seller available, or only one seller who meets the qualifications necessary. This is a monopoly situation that could be caused by economic scale, low demand, patent rights, or a high degree of specialization.

Single source/Single seller: The organization requires or prefers the product, service, or result to be bought from only one seller. This is a self-imposed monopoly; for example, the company might require electrical work to be done by only one approved contractor.

Oligopoly: There are only a small number of qualified sellers available. It isn't a monopoly situation, but the pool of available sellers is extremely limited due to economic scale, low demand, patent rights, or a high degree of specialization.

We've touched upon several factors involved in a make-or-buy analysis, but we haven't yet talked about price, and though price would seem to be one of the most objective pieces of data available, there are elements of it that are difficult to quantify. In addition to the base price of the product, service, or result, the make-or-buy analysis needs to address the costs over the entire life cycle of the item. The components of life cycle cost will vary, but often include direct costs like licenses, maintenance fees, upkeep, upgrades, ancillary equipment or software, and indirect costs such as the estimated labor for performing these tasks. Life cycle costs always have some room for errors and subjective.

If initial findings support a buy decision there will often be further analysis, if applicable, to determine whether it's best to lease, rent, or buy the item outright. And even when price analysis definitively leads one way, the long-term needs of the organization might lead the final decision in another direction. For example, if the make-or-buy analysis proves that specialized testing equipment is too expensive to buy for the project, the equipment might be useful for other work the organization plans to do, so a buy decision is made and the project will share only in the equipment cost for its use.

Once the analysis has been made and compiled, the appropriate people should be involved in the decision-making process because it helps generate buy-in for the decision and could also bring to the surface factors or priorities that were overlooked. The decision makers should include the stakeholders most affected, key project stakeholders, project team members, and purchasing personnel. One of the biggest mistakes made in project procurement is not including the right stakeholders in the analysis and decision-making process. In many cases, the "right" stakeholders are those who'll have to use the purchased item.

REASONS TO MAKE

- Cheaper
- Skilled resources available
- Ability to include value-added features
- Competitive advantage in making
- Product unavailable in marketplace
- Lack of off-the-shelf functionality
- Strategic business need
- Lack of available or qualified sellers

REASONS TO BUY

- Cheaper
- Lack of resources or skills
- No need for value-added features
- No competitive advantage in making internally
- Product available in the marketplace
- Standardized products meet core needs
- Transfer risk and maintenance to 3rd party
- Large pool of available and qualified sellers

Make-or-buy analysis example

There is not a single formula that can be relied upon for comparing make-or-buy costs because so much depends on the type of good or service, what direct and indirect costs are involved, the life cycle cost, and the revenue ramifications of each option. If we encounter a make-or-buy decision on the PMP examination, we should first look for all direct costs mentioned in the question and then look for any life-cycle costs, which might be given in a time period, like months.

It's estimated to cost \$50,000 to develop an online web-based application, and \$4,000 to buy the computer equipment to run it. Once developed, it'll cost \$3,000 per month to maintain. The software can be purchased for \$25,000, but will also require new hardware at \$5,000 and \$10,000 in additional programming by the vendor, bringing its initial cost to \$40,000. Based on the number of users, the vendor will require a \$4,000 per month license fee and \$1,000 per month in labor to properly maintain the system. Based on these figures, though the purchase is initially cheaper, after the 7th month of operations it will be more expensive.

	Buy Cost	Make Cost	Net Difference
Initial cost	\$25,000	\$50,000	
Equipment cost	\$5,000	\$4,000	
Customization cost	\$10,000	-	
	<u>\$40,000</u>	<u>\$54,000</u>	(\$14,000)
Monthly license	\$4,000	-	
Monthly labor	\$1,000	\$3,000	
	<u>\$5,000</u>	<u>\$3,000</u>	\$2,000

Life-Cycle (Running Total) Cost Comparison

	Buy	Make
Month 1	\$45,000	\$57,000
Month 2	\$50,000	\$60,000
Month 3	\$55,000	\$63,000
Month 4	\$60,000	\$66,000
Month 5	\$65,000	\$69,000
Month 6	\$70,000	\$72,000
Month 7	\$75,000	\$75,000
Month 8	\$80,000	\$78,000

Procurement preparation



Procurement statement of work

Evaluation criteria

Procurement documents

If the decision has been made to satisfy the project need through outside sources then some additional preparation is needed before further procurement activities can begin.

Procurement statement of work

The potential sellers will need a document that focuses specifically on the requirements they'll need to meet. The **procurement statement of work** provides the potential sellers the deliverables, materials, specifications, milestones, requirements, acceptance criteria, and any other characteristics they need to accurately develop their bid or proposal, and once a seller is chosen, the statement of work is used to create the final contract.

Generally, there are three major types of SOWs: (1) the design/detailed specification SOW, instructing the seller how to do the work; (2) the level-of-effort SOW, in which the real deliverable is a certain number of hours of work; and (3) the performance-based SOW, in which the seller is given the freedom to determine how to meet the buyer's requirements.²

John E. Miller, contracts management consultant

The SOW is derived from any parts of the project management plan needed to sufficiently scope out the need --project scope statement, WBS and WBS dictionary, activity resource requirements, activity list, activity attributes. Since the statement of work will also include any other requirements the potential seller will need to meet, the project cost baseline, schedule, and quality management plans may also be needed.

The procurement SOW should be looked at as the potential seller's preliminary project scope statement, so it needs to provide any and all relevant details the seller will need to accurately decompose and estimate the work and materials involved in providing the product, service, or result. Items such as permits or licenses, safety and environmental regulations, security requirements, technical specifications, equipment or facility requirements, milestones, and any constraints (cost, schedule, etc.) are contained in the contract statement of work. The SOW will contain a lot of information and it'll be relied heavily upon during development of the contract, so it needs to be formatted in a logical, easily-referenced manner, usually with numbered headings, subheadings, and paragraphs.

Source selection and evaluation criteria

Before the bid or proposals are solicited, the selection and evaluation methods that'll be used for choosing the seller should be established. By addressing this up front, it helps the buyer clarify its needs and decide the relative importance of each criterion, and introduces objectivity into the selection process. When the potential sellers are made aware of the evaluation criteria, it helps them to better understand the priorities of the buyer, resulting in submitted solutions that better match the procurement need.

One of the first things that must be considered before developing evaluation criteria is what procurement elements can be thought of as commodities and which are value-added. Commodities are most likely to be judged heavily on price while value-added needs will involve subjective criteria. For example, if the

procurement need is for 1,000 pounds of 4-inch galvanized nails, this is a commodity that is readily available on the open market, and potential sellers will be judged primarily on price. Value-added needs include requirements that go beyond the basic prerequisite needs. For example, the prerequisite need of an architect is for creating building plans, but there is an expectation that the architect will also work with the buyer in determining what the physical and aesthetic needs are, assisting in surveying the site, working through zoning limitations, and collaborating with the buyer through many stages of preliminary designs. Value-added needs involve subjective criteria that rely on experience, skills, foresight, innovation, and creativity to name only a few.

Many experienced buyers recommend discarding the lowest-priced bid and the highest-priced bid.

The evaluation criteria that'll be used to evaluate bids and proposals needs included in the procurement documents so that the potential sellers have full disclosure of what they'll need to address. Keeping the evaluation criteria hidden doesn't serve the project, organization, or potential sellers well --it would be like expecting a project manager to submit a project plan without him or her knowing what the success criteria is for the project.

The performing organization, stakeholders, and the customer may have seller selection requirements that will also need addressed in the evaluation criteria. In addition to meeting the basic prerequisites for the product, service, or result, commonly used evaluation criteria include:

- Approach (technical, innovation, creativity)
- Awards, industry recognition
- Best practices
- Bonded, insured
- Certifications
- Credentials, licenses, skills
- Equipment
- Ethics
- Experience
- Facilities
- Guaranties
- Integrity
- Intellectual property rights
- Life-cycle cost
- Management approach
- Post-sale support policy
- Price
- Production capacity
- Propriety/open-source approach
- Quality control
- References
- Reputation
- Return policy
- Schedule
- Security
- Service policy
- Standardization (parts, components)
- Warranties

Procurement documents

Procurement documents is the collection of written materials that provides the potential sellers all the information they need to develop and submit a bid or proposal. Care needs to be taken towards the terminology used in developing the procurement documents. Each industry (and sometimes even each organization) has subtle differences in meanings between terms that are not evident to a layperson. The term *bid* or its equivalent usually implies a commodity-type procurement where price is the determining factor. *Proposal* indicates that the seller will need to respond with a value-added approach or solution to the procurement need. The collection of procurement documents is also referred to differently between industries.

The procurement documents are not the contract, but they should be approached with the same formality and level of detail. All sellers will receive the same documents to ensure that the information provided is consistent and that no

seller has an advantage due to information others don't have access to. Signed non-disclosure or confidentiality agreements with potential sellers may be needed before they are provided full details. It's not only unethical, it is poor project management for the buyer to intentionally withhold information or requirements that the potential sellers need to submit a proposal.

The procurement documents need to be well-formatted in a logical manner that can be easily referenced, and include the deadlines and details on when and how bids or proposals should be returned. The organization may have standardized templates or checklists that need used as a starting point for creating the procurement documents.

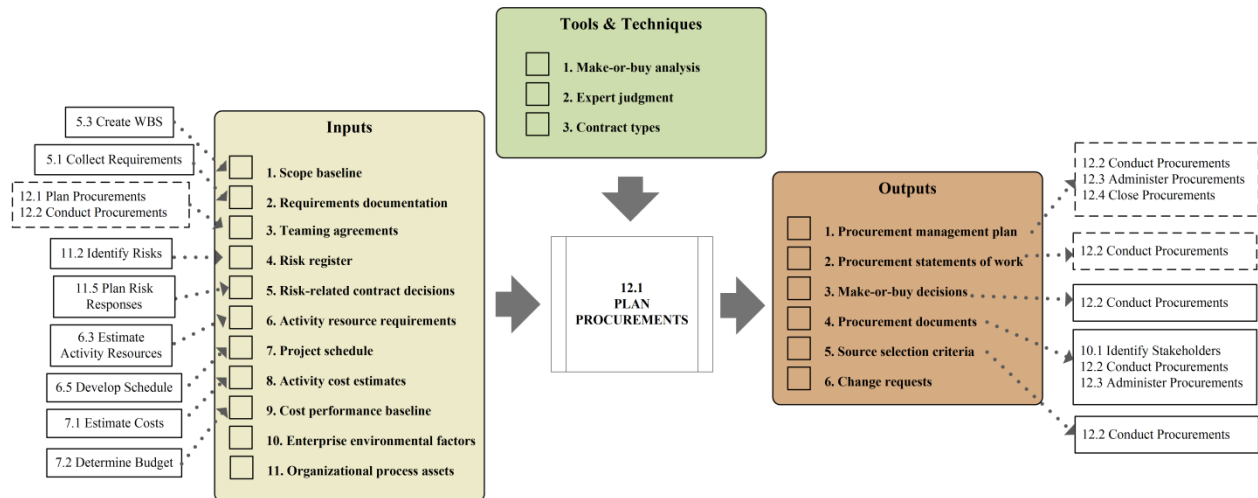
The contract statement of work is one of the critical components of the procurement document, but exactly what else is contained in the procurement documents depends on the procurement need, its requirements, risk, and cost. Any negotiable or non-negotiable requirements should be clearly labeled as such, which might include insurance, bonds, licenses, permits, environmental or safety regulations, quality specifications, technical specifications, or material specifications. The documents will usually need to allow for some flexibility on the solutions proposed, such as a potential seller suggesting an alternate and more cost-effective approach to reach the desired result.

Before being finalized, the procurement documents will need to undergo an approval process by the project manager, project management team, and the organization's purchasing or procurement department, if applicable, or outside parties like attorneys. The documents need to be reviewed so that they:

- Represent the full product, service, or result, its need and full requirements
- Include seller pre-screening requirements and evaluation criteria
- Include the deadlines and process for returning completed bids or proposals
- Include the schedule and location of the bidder conference if one is to be held
- Conform to industry standard practices
- Conform to the project customer's requirements, if applicable, such as a government agency

	<u>Also Known As</u>
Bid:	Quote, solicitation, tender
Proposal:	Solution
Procurement documents:	Call for bids, contractor initial response, invitation for bids, invitation for contract, invitation for negotiation, invitation for response, request for information (RFI), request for bids (RFB), request for proposals (RFP), request for quotations (RFQ), tender notice

12.1 Process decomposition

**Inputs**☐ **Scope baseline**

The scope baseline is the approved project scope statement, WBS, and WBS dictionary. It identifies the needs, deliverables, and requirements of the project.

☐ **Requirements documentation**

The product scope and project objectives are broken down into requirements and described in a collection of documentation that's applicable to the project. Requirements may contain contractual and legal needs that must be met.

☐ **Teaming agreements**

Teaming agreements are contracts that establish a joint venture or similar agreement that offers business advantages for all parties.

☐ **Risk register**

Outsourcing can be a method to transfer risks to a third party. The risk register is a comprehensive list of all threats and opportunities the project faces. It also contains supplementary data about each risk, including its impact, probability, risk response, budget, risk owner, and contingency and fallback plans.

☐ **Risk-related contract decisions**

Risk responses may include procurement needs, such as insurance, as well as specifically outlining buyer-seller responsibilities as they relate to risk response activities.

☐ **Activity resource requirements**

The activity resource requirements document describes the resource needs at the activity level. These requirements are needed for make-or-buy analysis and for procurement document preparation.

☐ **Project schedule**

The project schedule specifies the planned start and finish date for each scheduled activity. It's needed to determine milestone or deadline dates, which are important considerations for make-or-buy analysis.

☐ **Activity cost estimates**

Activity cost estimates are a complete accounting of all component costs, such as labor, resources, services, fees, and licenses, of a scheduled activity. They can be used to check the reasonableness of quotes from vendors.

☐ **Cost performance baseline**

The project cost baseline is a time-phased budget that is used for project cost management, monitoring, and reporting.

☐ **Enterprise environmental factors**

Any of the many enterprise environmental factors and systems that influence procurement activities should be considered. These factors can include its personnel, its organizational culture, its tolerance of risk, and its formal and informal hierarchy. Organizations may also have custom or commercial analytical databases that can include cost estimating, risk, or demographic data. Even elements outside the enterprise, like business conditions and political climate can influence procurements.

☐ **Organizational process assets**

Organizational process assets are the source of existing policies, processes, organizational data and knowledge. These assets include the entire collection of formal and informal methodologies, policies, procedures, plans, and guidelines, as well as the organization's "knowledge base," which includes historical performance data, labor information, service and maintenance history, issue and defect history, project files, and financial data.

Tools and Techniques

☐ **Make-or-buy analysis**

A make-or-buy analysis is a general management technique that considers both qualitative and quantitative factors to determine whether it's more efficient, less costly, or better quality to meet the need in-house or externally.

☐ **Expert judgment**

Expert judgment is based upon the experience and knowledge of subject matter experts. It's used to assess and evaluate the inputs and the information they contain.

☐ **Contract types**

Contract types establish a legal relationship between the buyer and seller. The type of contract both parties are willing to accept depends upon many factors, including organizational policies and the amount of risk and uncertainty in the procurement need.

Outputs☐ **Procurement management plan**

A component of the project management plan, the procurement management plan defines how the overall procurement needs of the project will be handled.

☐ **Procurement statements of work**

The procurement statement of work clearly describes the deliverables, materials, specifications, milestones, requirements, acceptance criteria, and any other characteristics applicable to a procurement need.

☐ **Make-or-buy decisions**

The determination and its rationale as to whether the project need is developed by the project team or procured from outside sources are documented in the make-or-buy decision.

☐ **Procurement documents**

Procurement documents refers to the collection of written materials that provides the potential sellers all the information they need to develop and submit a bid or proposal.

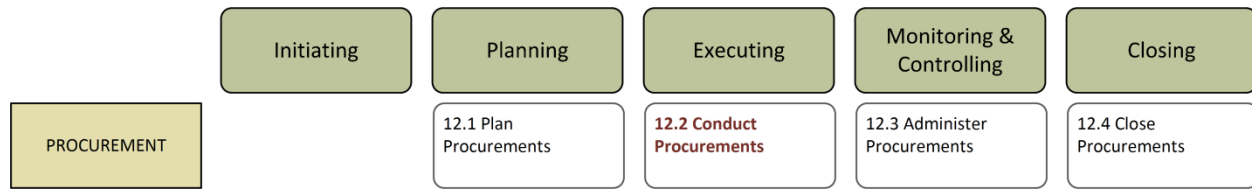
☐ **Source selection criteria**

This is the evaluation and selection criteria that will be used to assess bids and proposals. It can be based solely on price for commodity-type of materials, but it often includes a host of other subjective factors.

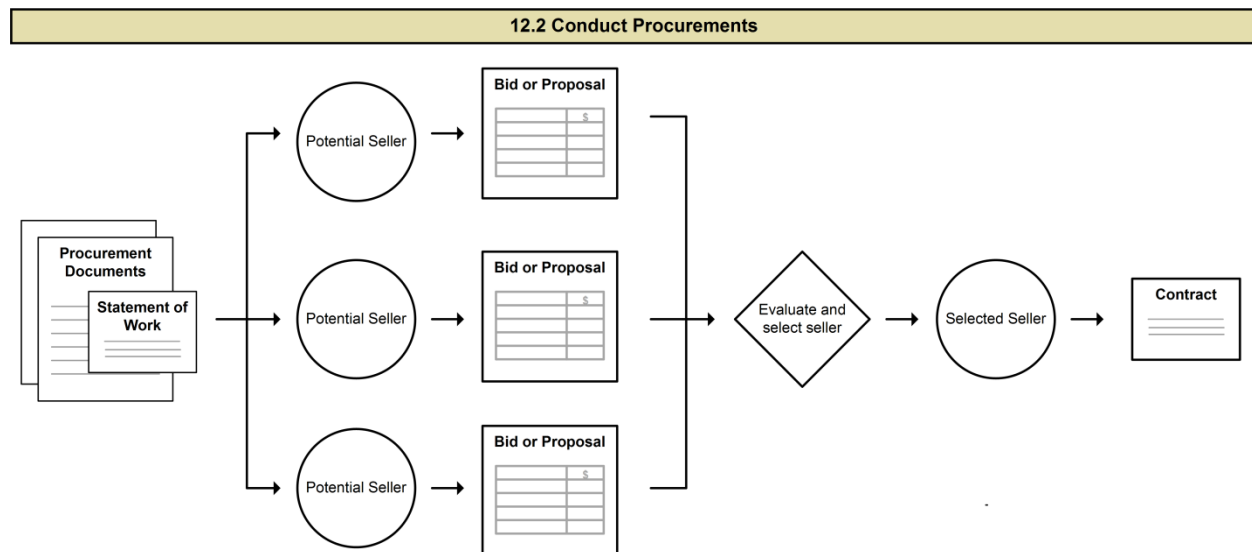
☐ **Change requests**

Procurement planning activities will result in changes to the project management plan.

12.2 Conduct procurements



The **Conduct Procurements** process distributes procurement documents, collects responses, and evaluates the bids or proposals, and lastly establishes a contract with the seller.



The buyer determines who will be invited to bid. The methods used to solicit bids or proposals will vary depending on the project type, procurement need, industry or professions involved, and organizational policies. Some procurement needs will require public notices or advertisements that potential sellers will respond to. In most cases these types of public invitations will include a bidder conference where the procurement documents will be supplied and any questions will be answered.

A **qualified sellers list** identifies which vendors meet the organization's criteria. The performing organization might already have such a list, or it may be up to the project team to develop a qualified sellers list through research, interviews, referrals, past procurement experience, or any method that objectively evaluates which potential sellers meet the basic prerequisite criteria.

Treat your potential partners and partners as such --not as vendors. There is a real need to drive contract terms and legal conditions, but in the end, no contract in the world will adequately cover your long-term goals and expectations. Build a solid, true collaborative partnership with your vendors. It will pay off in the long run. When things go bad, and they most certainly will, who would you rather have at the table? A vendor or a partner?³

Rick Hamilton, director, service delivery, Cisco Systems Inc.

A **bidder conference** or **vendor conference** is a forum open to all invited sellers, and it gives the buyer an opportunity to make sure that all sellers understand the requirements and for the sellers to ask any questions.

Some invited sellers may decline to participate in the bid or proposal. This could be due to a lack of capacity or resources, constraints or deadlines in the SOW, the type of work or material involved, or what the potential seller may see as a lack of adequate profit in the endeavor. Too few interested sellers limit the procurement options and may require the project team to re-plan the procurement to make it more attractive for sellers.

Evaluating proposals

There is a lot involved in evaluating potential seller responses to arrive at a decision. Every type of product, service, or result carries its own evaluation challenges, and the unique objectives of the project, organization, and stakeholders have to be considered. And, except perhaps for very basic bid responses, the proposals from potential sellers will each have unique characteristics for achieving the product, service, or result, which make a side-by-side comparison between proposals difficult.

Expert judgment and involvement of the appropriate stakeholders and project team members throughout the analysis and decision-making process is vital to make sure the best seller is chosen and to encourage buy-in from the stakeholders. The evaluation criteria that were established earlier are applied to each bid or proposal, but how this is done will likely differ for each procurement need, and will usually involve a number of different techniques and more than one round of evaluations. For example, proposals might first be evaluated by several groups who then come together and further evaluate the top-ranking proposals. Proposals might also undergo different evaluation rounds that focus on specific criteria, such as technical approach, price, and quality.

If established in the procurement documents, a **screening system** makes sure that bids or proposals (or the potential seller making the bid) meets a set of minimum prerequisites. The screening system can save time by weeding out bids, proposals, or potential sellers who don't have the financial or operational resources, skills or expertise, or any other prerequisites needed to be viable candidates.

Analytical Hierarchical Process (AHP) is a structured decision-making tool that helps address complex problems with multiple criteria of varying levels of importance.

Independent estimates may also be gathered from an objective third party to serve as a cost basis to gauge submitted bids or proposals. Independent estimates will result in a cost to have the estimate made, but they can be helpful to make sure bids or proposals are within reason. A significant variation between the independent estimate and a bid can imply that the potential seller is providing more or less than what was asked, misunderstood the statement of work, or may have uncovered a fact that the independent estimate or other potential sellers overlooked.

Some organizations maintain a **seller rating system**, which provides key performance indicators based on its prior contracts with the seller. While referrals from other organizations are valuable, feedback from others within the organization who've dealt with the potential seller should carry significant weight.

Potential sellers are most often evaluated through a combination or variation of three primary methods:

- Rating, ranking, or scoring based on quantifiable data, such as price
- Rating, ranking, or scoring that is based on qualitative criteria
- Weighted qualitative-based rating, ranking, or scoring that is focused on specific buyer's objectives

Contract award and negotiations

Once a seller is chosen, they will collectively negotiate and agree upon a contract. This may start with the buyer sending a letter of intent to the seller. Letters of intent let the seller know that the buyer intends to conduct business with it. However, if not properly worded, letters of intent can be viewed as contracts and can cause legal issues if the buyer changes its mind.

Contract negotiations will likely involve a series of revisions and counter offers before a final agreement is reached, and though all project documents are subjected to review and some method of approval, contract approvals require a very formalized review, usually involving procurement experts, such as attorneys, before being presented to the potential seller as an offer. During contract negotiations, it's best to approach the selected seller as a partner and not as an adversary. A win-win agreement for both parties is best because it reinforces long-term supplier relationships that are fundamental to good quality management.

Contracts tend to be lengthy documents because they have to contain explicit descriptions, objectives, requirements, obligations, and requirements for both parties. Regardless of any verbal agreement or written correspondence, the contract is the only document that establishes the legal basis for the buyer-seller relationship, and once signed, each is bound by all of the provisions in the contract. It's therefore important for the subject matter experts most knowledgeable about the procurement need to participate in establishing and reviewing the contract before it's signed because words, terminology, and meanings can become unintentionally jumbled as the contract gets revised. The project manager and project management team may only have cursory roles establishing the contract, as it's often handled by the buying organization's purchasing or procurement department, but they need to maintain close involvement to ensure that the contract meets the project's procurement need.

The contract must provide clear, unambiguous details on the product, service, or result, and as applicable, it will also contain the following elements:

Acceptance criteria	Guaranty	Resources provided by buyer
Bonds	Incentives	Resources provided by seller
Buyer and seller names, titles	Insurance	Schedule
Ceiling cost	Invoicing requirements	Special arrangements
Ceiling price	Milestones	Subcontracting
Contract change procedure	Payment methods	Target cost
Cost reimbursement procedure	Payment terms	Target price
Dispute resolution method	Penalties	Warranty
Early termination method	Performance criteria	
Financing arrangements	Price	

Point of total assumption

In a fixed price contract with incentives, the buyer and seller may negotiate the seller's profit, target cost, target price, ceiling price, and a sharing ratio for cost overruns. The **point of total assumption (PTA)** is when the seller becomes responsible for all costs. The formula uses the ceiling and target prices and the buyer's cost sharing portion. The ceiling price is the most pessimistic cost based on reasonable factors. Anything above the ceiling price is considered to be due to lack of oversight by the seller.

The formula for calculating PTA is:

$$\text{PTA} = \frac{\text{Target Cost} + (\text{Ceiling Price} - \text{Target Price})}{\text{Buyer's Percentage Share of Cost}}$$

For example, a contractor has agreed to build a storage depot at a ceiling price of \$100,000. The targeted price is \$90,000, and the buyer and seller agree that the target cost is \$80,000, and that the seller will be responsible for 25% of costs that run over the target. This structure will make the buyer responsible for 100% of the costs up to \$80,000, and 75% of costs between \$80,000 and \$100,000.

Target Price: \$90,000

Target Cost: \$80,000

Ceiling Price: \$100,000

Share Ratio: Buyer = 75%; Seller = 25%

$$\text{PTA} = \$80,000 + (\$100,000 - \$90,000) / 75\%$$

$$\text{PTA} = \$80,000 + \$10,000 / .75$$

$$\text{PTA} = \$80,000 + \$13,333.33$$

$$\text{PTA} = \$93,333.33$$

Economic price adjustment

To reduce some of the seller's risk, **economic price adjustments** may be needed if the contract extends over a long period or there's a high level of volatility in the resource costs. These provisions are tied to a mutually agreed upon standard, such as the rate of inflation published by a government agency, and will automatically kick in at predetermined periods like quarterly or annually.

Liquidated damages

Another provision that may need included is for **liquidated damages**. These are payments made to the buyer if the seller fails to meet targets. The term comes from its most common use, which is to reimburse the buyer for damages to its business operations. For example, the buyer has contracted to have a new data center built. The completion date in the contract is tied to when the buyer's lease expires. If the contractor fails to have the new data center ready by the completion date, the buyer will have to pay a penalty to the landlord and continue on a month-to-month lease until the new facility is done. Liquidated damages would require the seller to reimburse the buyer for these added costs should it fail to have the data center ready in time.

Contract change control and early termination procedure

Contracts will also need to include the procedures for the buyer and seller to request changes to the contract. Contract changes are not always centered specifically on the work needed, but can also include anything contained in the contract like payment terms, delivery schedule, milestones, specifications, quality requirements, incentives, and cost sharing agreements. Requested changes should be rigorously documented and follow both the contract change control process and the project integrated change control process. Contract change control is discussed as part of procurement administration (12.3).

The contract will also need to establish what methods the buyer or seller can terminate the contract before all work is completed. Poor seller or buyer performance can be a reason for initiating early termination, but so can changing financial or business conditions. Early termination will include a penalty to reimburse the seller.

Formal acceptance

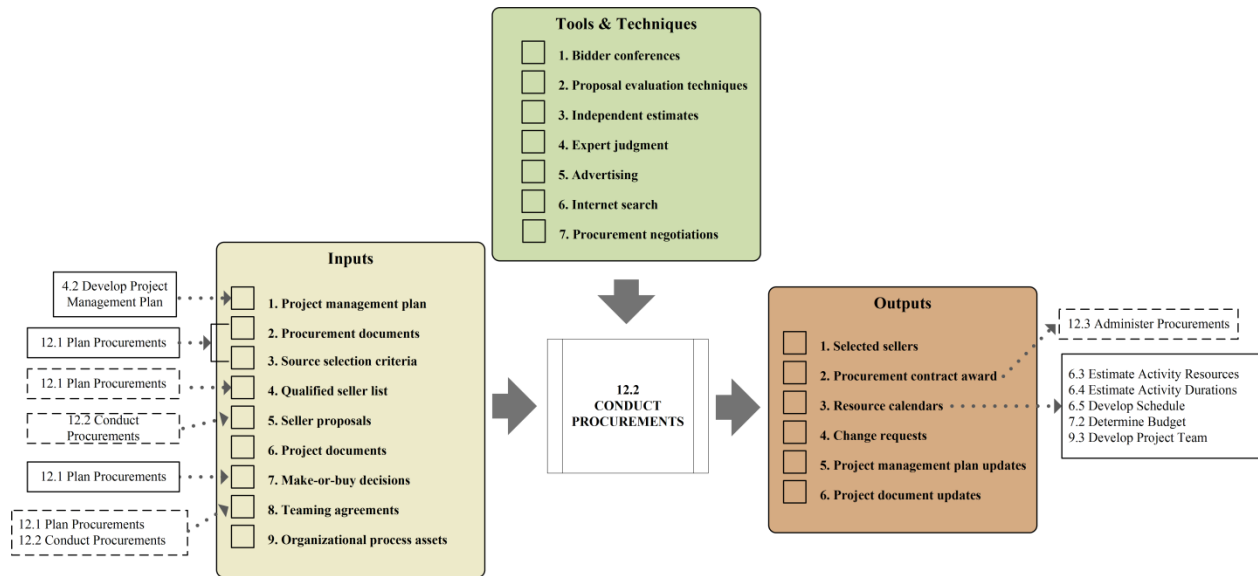
The contract is signed by the authorized individual(s) of the buyer's organization, and it's presented to the seller for its review. If the seller intends to accept the offer, the acceptance must be made within a "reasonable" amount of time. It's always best if the contract establishes when the offer expires so that there's no question of what *reasonable* means. An offer can be rescinded if it hasn't been accepted by the seller as long as the terms of the contract do not say otherwise (e.g., *this offer will remain open until January 1, 2010*) , or there hasn't been a tentative offer and acceptance made prior to the contract.

Although partnership is the key word, it is still important to have some leverage in the negotiation process. The vendor needs to know you have legitimate choices, so keep two or three vendors involved when going through the negotiation process. If you just negotiate with one vendor, don't think they don't know that too.⁴

Lew Semones, chief financial officer, Senderra Funding LLC

The seller will accept the contract by having it signed by the authorized individuals from its organization, and once this is done, the contract is in force.

12.2 Process decomposition

**Inputs**☐ **Project management plan**

The procurement management plan, a component of the project management plan, describes how procurements will be conducted.

☐ **Procurement documents**

This term refers to the collection of written materials that provides the potential sellers all the information they need to develop and submit a bid or proposal.

☐ **Source selection criteria**

These are the criteria established during procurement planning that determine how the bids or proposals from potential sellers will be evaluated.

☐ **Qualified seller list**

A qualified sellers list identifies which vendors meet the organization's criteria.

☐ **Seller proposals**

These are the replies from potential sellers in response to requests from the buyer for bids or proposals.

☐ **Project documents**

As they may relate to procurement decisions, any other project documents, such as decisions regarding risks, should be reviewed.

☐ **Make-or-buy decisions**

The determination and its rationale as to whether the project need is developed by the project team or procured from outside sources are documented in a document referred to as the make-or-buy decision.

☐ **Teaming agreements**

Teaming agreements are contracts that establish a joint venture or similar agreement that offers business advantages for all parties.

☐ **Organizational process assets**

Any historical information the organization may have from its past experiences with the potential sellers should be reviewed as part of the proposal evaluation activities.

Tools and Techniques☐ **Bidder conferences**

A bidder conference or vendor conference is a forum open to all invited sellers, and it gives the buyer an opportunity to make sure that all sellers understand the procurement requirements.

☐ **Proposal evaluation techniques**

These are the defined evaluation methods that the bids and proposals from potential sellers will undergo. It can include ranking and rating methods that score seller responses against criteria established by the buyer.

☐ **Independent estimates**

These are third-party, independent estimates that are performed for procurement needs to help establish a cost estimate against which bids and proposals will be checked for reasonableness.

☐ **Expert judgment**

Expert judgment is based upon the experience and knowledge of subject matter experts. It's used to assess and evaluate the inputs and the information they contain.

☐ **Advertising**

Potential sellers may be solicited from advertisements and public notices. Some government contracts require public notices.

☐ **Internet search**☐ **Procurement negotiations**

Negotiations will occur between the buyer and selected seller before a contract is established. These negotiations involve clarifying and documenting the requirements, objectives, expectations, obligations, and responsibilities of both parties.

Outputs☐ **Selected sellers**

Based on the evaluation of the bid or proposal responses, one or more sellers will be selected.

☐ **Procurement contract award**

A contract is established with each selected seller. A contract is a legally binding document that establishes the buyer and seller relationship. A contract describes the obligations and responsibilities of both parties.

☐ **Resource calendars**

Project resource calendars will be updated with dates and quantities after procurement contracts are established.

☐ **Change requests**

Contract awards will result in change requests to the project management plan or any of its components.

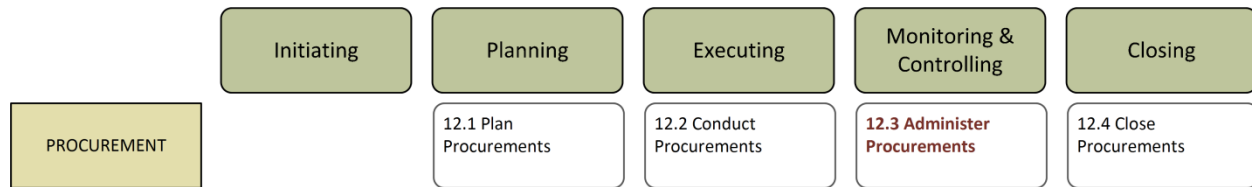
☐ **Project management plan updates**

Contract awards will result in updates to components of the project management plan, including cost and schedule components.

☐ **Project document updates**

Contract awards will very likely result in updates to other impacted project documents.

12.3 Administer procurements



The activities in the **Administer Procurements** process are intended to make sure that all parties fulfill their contractual obligations. Because these activities have legal implications, in many organizations these activities will be approached as a separate administrative function outside the project, so the project manager and project management team may be only participatory members in contract administration activities.

The contract and procurement management plan provide the requirements that will need followed for administering the contract. Performance reports are also necessary, and the seller's progress will need monitored. Since most management activities will be led by administrative personnel, during contract administration the project manager is mainly concerned with:

- Making sure that contractual elements are well integrated throughout the project management processes.
- Reporting on the seller's progress status for the contracted work to those in charge of contract administration.
- Monitoring and reporting on the seller's cost, schedule, quality, and technical performance.
- Making sure that contract records are maintained.
- Monitoring project risks that could be affected by seller performance.
- Seeing that contractors are authorized to work at the appropriate time, especially when multiple contracts are involved and the work needs coordinated.
- Educating the project team on the contract, their obligations, and the legal ramifications of any actions team members might take.
- Ensuring that the contract change control system is rigorously followed and that approved contract change orders are integrated into the project management plan.

Records management system

Properly maintained and organized records are essential should disagreements, claims, or litigation arise between the buyer and seller. Each party should maintain a log of all correspondence, the correspondence itself, and all actions taken. While normally thought of as documents, **records** are any evidence of any transaction between the buyer and seller, and in addition to written correspondence can include e-mail, voice mail, photographs, conversation logs, databases, inspections, audits, payment requests, payments, invoices, and expense vouchers. A **records management system (RMS)** is a tool that collects, organizes, and retains organizational assets that need to be preserved in accordance with organizational, legal, or governmental retention policies. The project records management system is part of the PMIS, and will likely be a component or subset of the organizational records management system.

Payment systems

Payments to sellers must be made in accordance with the contract, and payment systems ensure proper accounting controls are followed. This is usually done through the buyer's accounting system, but extremely large projects could need their own payment system with the necessary accounting controls established. Payment to vendors will require organizational procedures to be followed, but it's extremely important that these payments be made on time and in accordance with the contract. Disputed invoices or questions should be referred to experienced contract administration personnel for direction who are best able to determine what should be done.

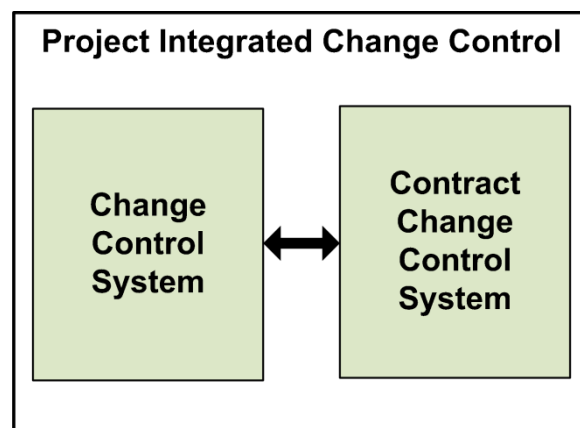
Monitoring seller performance

The project manager and project management team will regularly monitor, evaluate, and report on the seller's performance to the contract administration personnel. Some of this performance information will make its way into the organization's seller rating system if one exists. Inspections and audits as specified in the contract will review the quality of the seller's deliverables or services.

Procurement performance reviews are structured reviews of the seller's progress thus far compared to the contract statement of work. These can include a broad range of evaluations like quality, cost, schedule, process effectiveness, and contract compliance. The purpose of a buyer-conducted performance review is to gauge the seller's overall ability in performing the work required under the contractual obligations. If inspections, audit, or work performance information suggests that the seller is not meeting its obligations then buyer-conducted performance reviews are usually taken as a step towards early termination procedures, recommended corrective actions to bring the seller's performance back to contractual requirements or to identify changes that will be requested to the terms of the contract.

Contract change control system

The contract will include the procedures agreed upon by the buyer and seller for introducing, reviewing, and approving or denying contract change requests. The project **contract change control system** is part of integrated change control, and it ensures that paperwork, tracking, communication, and approval processes are fully followed and integrated with the overall project change control system.



Requested contract changes can be related to anything in the contract, including scope, technical or quality requirements, payments, financial terms, schedule, delivery dates, personnel changes, or service changes. Even early termination is first treated as a requested change. Before any action is taken on a contract change request, it should be logged onto a change register, supporting documentation collected, and the change analyzed for its impact.

Contract change control protects both the buyer and seller. Rigid contract change control is needed to make sure that requested changes from either the buyer or seller are not approached ad-hoc. Requested contract changes should be viewed as "mini contracts," meaning the change needs to adhere to the same strict requirements as the original contract --unambiguous, detailed, and clearly understood by both parties.

Claims administration

A **claim** is a demand by one of the contract parties for adjustments (usually financial) in contract terms as a method of relief. Unforeseen events, misunderstandings, and even approved contract changes can have unexpected financial impacts to the buyer or seller. For example, a historic district may require substantial construction modifications that were not anticipated in the original contract, resulting in sizable costs to the seller. Claims arise when there's a dispute between the buyer and seller on what constitutes fair compensation. Claims are most likely to occur in fixed-price contracts, but they can be encountered in any contract, especially those where a large amount of risk is born too heavily by the seller.

If the contract doesn't include dispute resolution processes, claims can turn into lengthy and costly litigation matters. Claims are one of the main reasons that stringent contract change control is necessary and that all contract correspondence and activities should be filed in the record management system since those documents may be required in court to settle the dispute.

The claims process can be inherently adversarial, but if approached correctly and with the right attitude, litigation can be avoided and the long-term buyer-seller relationship not significantly damaged. And if events that could lead to claims, such as excessive change orders without adequate compensation, are discouraged then claims may not even arise in the first place.

Claims begin with a formal, written notice to the other party. This notice details the conditions and substantiates the compensation requested by providing factual and documentary evidence. The party receiving the claim notice should immediately begin a claim file and start collecting pertinent documentation and correspondence from its internal systems and acknowledge receipt of the claim in writing to the other party.

For any type of outsourced project, make sure that you are clear about who owns the resulting work product and any important components of that product. Make sure the service provider understands how you intend to use the deliverables that they are agreeing to provide.⁵

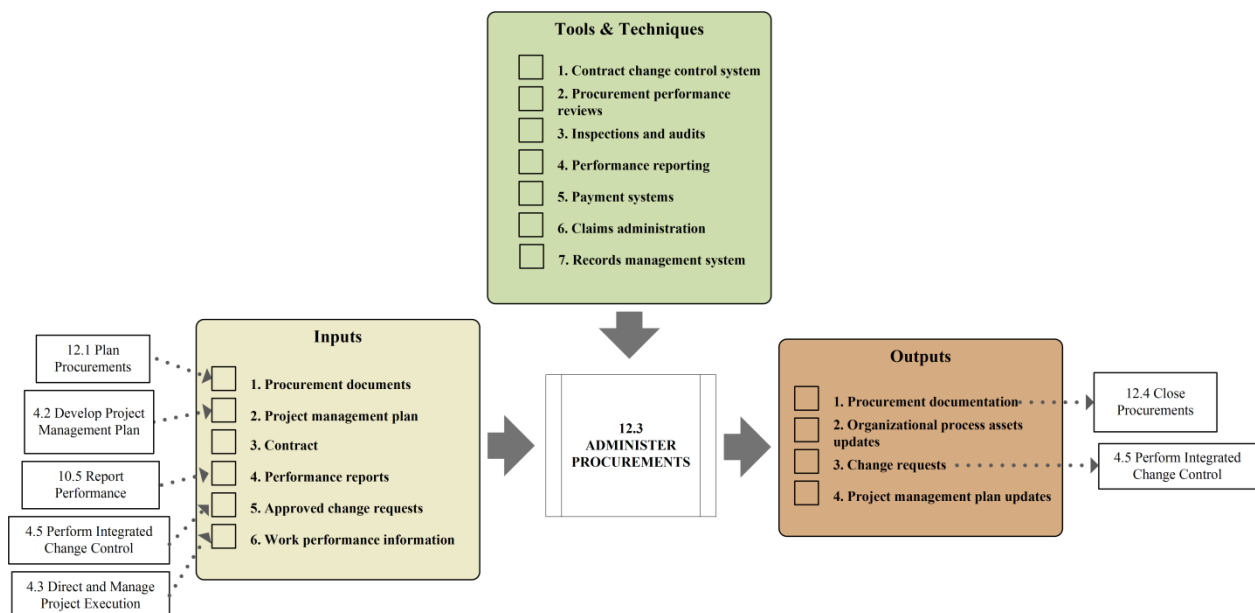
Keith R. Crosley, Top 10 Tips for Outsourcing Success

If investigations prove there's merit to the claim, quick action to fairly resolve the claim can reduce its ultimate cost. Work stoppages, refusing to make payments, or in any way refusing to fulfill contractual obligations will only escalate the claim and could result in additional financial costs if the matter is litigated. It's always better for the buyer and seller to try to reach an equitable agreement following the dispute resolution methods established in the contract. Unnecessarily fighting valid claims only damages the buyer-seller relationship, encourages the filing of additional claims, and diverts organizational financial and personnel resources from meaningful work as they dispute the claim.

Tips for Avoiding Claims

- Make sure the statement of work is detailed, clear, and that everything is fully disclosed to the seller. If applicable, highlight potential trouble spots or risks so that the seller can incorporate them into its approach for the procured products, service, or result and into its price.
- Include partnership agreements between the buyer and seller as part of the contract. This can include a cost-savings sharing agreement.
- Include alternative dispute resolution techniques into the contract, such as arbitration, mediation, or a dispute resolution board.
- Maintain regular, open, honest, and direct communication with the seller.
- Make sure all parties fully understand what the impact of a requested contract change order will be.
- As soon as it's evident, applicable, and the situation calls for it, discuss and renegotiate cost or time elements of the contract. It will ultimately be cheaper to fairly address the situation up front.

12.3 Process decomposition



Inputs☐ **Procurement documents**

Procurement documents include the supporting information for the statement of work and the contract.

☐ **Project management plan**

The procurement management plan, a component of the project management plan, describes how procurements will be administered.

☐ **Contract**

The contract is the legally binding agreement that establishes the buyer and seller relationship. It explicitly defines the requirements and obligations each party must meet.

☐ **Performance reports**

Performance reports identify the progress of the seller towards objectives.

☐ **Approved change requests**

Approved change requests may include modifications to the terms or conditions of the contract.

☐ **Work performance information**

Work performance information is any data that can be considered related to the work which produces the contract deliverables. Examples are schedule and progress status information, budget and cost status, quality status, and estimates to complete.

Tools and Techniques☐ **Contract change control system**

The contract change control system is part of integrated change control. The system ensures that paperwork, tracking, communication, and approval processes are fully followed and integrated with the project change control system.

☐ **Procurement performance reviews**

Procurement performance reviews are structured reviews of the seller's progress thus far compared to the contract statement of work. These can include a broad range of evaluations like quality, cost, schedule, process effectiveness, and contract compliance. The purpose of a buyer-conducted performance review is to gauge the seller's overall ability in performing the work required under the contractual obligations.

☐ **Inspections and audits**

The contract may include inspections and audits, which will be performed during the contract period to verify compliance.

☐ **Performance reporting**

Performance reporting gathers, analyzes, and presents information about how the seller is performing.

☐ **Payment systems**

The buyer processes payments in accordance with the contract through a payment system, which is usually its accounts payables system.

☐ **Claims administration**

A claim is a demand by one of the contract parties for adjustments (usually financial) in contract terms as a method of relief. Unforeseen events, misunderstandings, and even approved contract changes can have unexpected financial impacts to the buyer or seller which can result in claims. Claims have legal ramifications, so there are proscribed methods for managing them.

☐ **Records management system**

Records are important documents that must be cataloged and maintained. Contract records include change requests, correspondence, performance reports, inspections, and audits. The project information system is integrated with the organizational records management system.

Outputs☐ **Procurement documentation**

Any supporting information to the procurement document, including contract records, is collected during procurement administration in the records management system.

☐ **Organizational process assets updates**

Organizational process assets that may be updated as part of procurement administration include payment schedules, seller performance information, and internal or external correspondence related to the procurement.

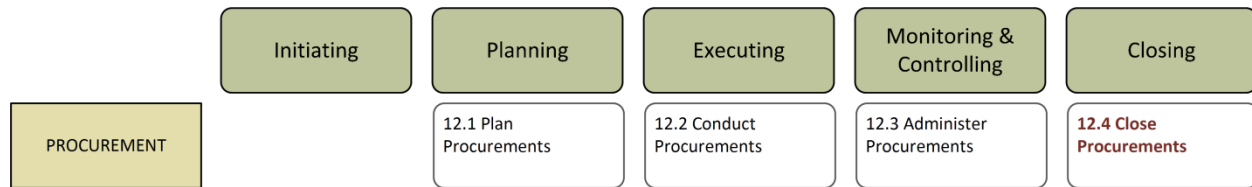
☐ **Change requests**

Administering procurements can result in cost, schedule, or contract change requests.

☐ **Project management plan updates**

Approved change requests are likely to impact the project management plan or any of its components, such as cost or schedule baselines.

12.4 Close procurements



Activities in the **Close Procurements** process makes sure that the product, service, or result has been provided as agreed upon and is acceptable, and that any other deliverables and requirements have been met. Contract closure will also include any lessons learned and a final review, organization, and archival of contract-related documentation. Contract closure will begin when the seller makes final delivery or otherwise meets its obligations, but contract closure will occur if early termination comes about. Closure will be performed for each contract, and is the end of the contract life cycle, and it's executed even if there are outstanding and unresolved claims.

The contract will contain what closeout procedures exist between the buyer and the seller, and the contract management plan will contain the contract closeout requirements of the buyer's organization.

Procurement audit

A **procurement audit** is a structured review and analysis of the procurement processes from start to finish with the intent to identify what worked well and where improvements need to be made. Procurement audits will look at the procurement process as a whole, and they will also focus in on specifics such as:

- Making sure the approved or qualified seller list undergoes regular reviews and updates by the organization;
- Ensuring that procurement processes were initiated during the early phases of the project;
- Seeing if the contract statement of work was complete and accurate before it was given to the seller;
- Verifying that appropriate accounting and organizational controls and procedures were in place and followed;
- Making sure that contract documentation was maintained, organized, indexed, and filed into the records management system;
- Seeing that the appropriate approval processes were followed;
- Reviewing the effectiveness of the seller evaluation methods;
- Verifying that the product, service, or result paid for was received.

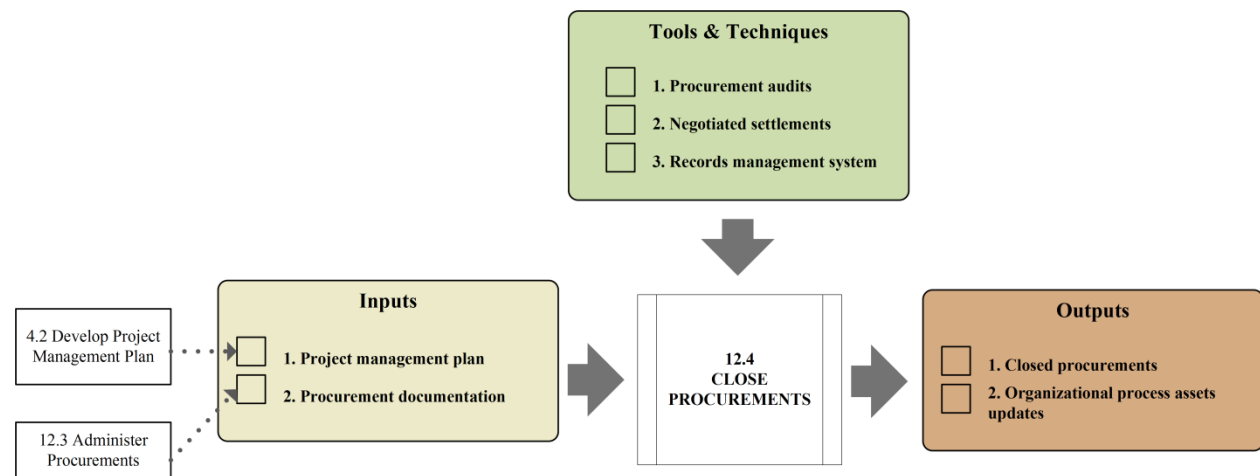
Contract file and closed contract

When it's been verified that the seller has met all its obligations (unless early termination procedures are involved), the seller is notified in writing that the deliverables have been accepted and the contract is closed. It's usual for any final lump sum payments and a final accounting to accompany this notice to the seller if applicable.

The closed contract notice, closed contract (including approved change orders), and all other contractual documentation, logs, performance reports, and correspondence are organized, indexed, and archived as the **contract file**. The organization may also require a post-contract evaluation to be completed that becomes part of its seller rating system.

If the buyer and seller have claims that haven't been resolved or other disputed items, the parties may resort to arbitration or other alternative dispute resolution mechanism to reach a negotiated settlement so that both can avoid litigation.

12.4 Process decomposition



Inputs

☐ **Project management plan**

The project management plan includes the procurement management plan, which will include any administrative closure procedures.

☐ **Procurement documentation**

All procurement documentation relating to the procurement is cataloged, indexed, and archived.

Tools and Techniques

☐ **Procurement audits**

A procurement audit is a structured review and analysis of the procurement processes from start to finish with the intent to identify what worked well and where improvements need to be made. Procurement audits will look at the procurement process as a whole.

☐ **Negotiated settlements**

To avoid litigation of contract disputes, alternative dispute resolution methods may be used to reach a negotiated settlement equitable to both parties.

☐ **Records management system**

Records are important documents that must be cataloged and maintained. Contract records include change requests, correspondence, performance reports, inspections, and audits. The project information system is integrated with the organizational records management system.

Outputs

☐ **Closed procurements**

The methods to formally close the procurement are specified in the contract.

☐ **Organizational process assets updates**

Lessons learned and the procurement file are added to the organization's information assets.

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Chapter summary

Activities in the **Project Procurement Management** knowledge area evaluate the project's needs for goods and services, and determine whether those needs will be met by the project team or by outside resources. For needs that will be purchased, further activities will be performed that ensure the procurement is properly defined, sellers are objectively evaluated, and a proper contract is established and well managed. Project procurement processes should begin as early as possible during project planning because make-or-buy decisions impact the project cost and schedule. There can be many contracts involved in a project, so varying stages of the contract life cycle can be occurring throughout all phases of the project life cycle.

Contracts are approached very formally and in writing. A contract is established when one party makes an offer, the offer is accepted by the other party, and something of valid (consideration) is exchanged. There are three general contract types: fixed fee, cost reimbursable, and time and materials. The seller is primarily at risk for cost overruns in a fixed fee contract while the buyer absorbs overruns in cost reimbursable and time and materials contracts.

The Plan Procurements process establishes the procurement management plan, which details how project procurement will be approached and managed. A make-or-buy analysis is also performed for each project need to determine whether it will be met by the project team or whether it will be acquired from outside the project. For needs to be procured, a detailed procurement statement of work is created that will provide the potential sellers all of the requirements they'll need to formulate a bid or proposal response.

Evaluation criteria for selecting sellers is determined beforehand, and procurement documents are prepared and distributed to potential sellers. The pool of potential sellers can be limited by a qualified sellers list. Sellers develop their bids and proposals during the Request Seller Responses process. The buyer may hold bidder conferences where the potential sellers can review the procurement documents and ask questions of the buyer. After bids and proposals are received they are evaluated against the source selection criteria, and a seller is selected, and a contract is then formalized.

Activities in Administer Procurements ensure that the buyer and seller perform their obligations as spelled out in the contract. These activities are usually managed by individuals outside the project who have procurement expertise. The project manager is primarily concerned with providing seller performance reports, monitoring the seller's status, making sure contract records are maintained, and ensuring that approved contract changes are integrated into the project management plan. The contract change control system is part of the PMIS, and it establishes the formal procedures for submitting, reviewing, and determining the disposition of change requests that may come from either the buyer or seller. Claims arise when there's a dispute between the buyer and seller over unexpected costs.

The Close Procurements process closes the contract when the seller has met all contractual obligations and the contract deliverables have been verified and accepted. Part of contract closing is ensuring that all contract documentation is filed, indexed, and archived, and that lessons learned are documented for later project teams.

Exam summary

- ☐ Project Procurement Management processes involve contracts that are legal documents, which establish the buyer-seller relationship.
- ☐ There can be multiple, simultaneous contracts going on throughout the project to satisfy different procurement needs.
- ☐ Contracts involve an offer, acceptance, and consideration.
- ☐ There are three general classifications of contracts: fixed fee, cost reimbursable, and time and materials.
- ☐ Fixed fee contracts establish a flat price for contracts products, services, or results.
- ☐ Fixed fee contracts represent a risk to the seller for cost overruns.
- ☐ The buyer is responsible for actual costs in a cost reimbursable contract, and the seller's fee is a separate line item.
- ☐ The buyer is responsible for cost overruns in a cost reimbursable contract.
- ☐ In most procurement situations, the seller will treat the procurement need as its own project, while the buyer will approach it as a subproject within its project management plan.
- ☐ The Plan Procurements process establishes the procurement management plan.
- ☐ The procurement management plan provides details on how all project procurement processes will be handled, approached, and managed.
- ☐ The procurement management plan:
 - How make-or-buy analysis and decisions are to be made.
 - What qualified seller lists will be used or how qualified seller lists will be created.
 - The types of contracts allowed.
 - The explicit procurement roles and responsibilities and levels of authority those roles have within the project and within the performing organization. These include who is responsible for approving and signing contracts, seller performance monitoring and reporting, payments, and purchase orders. If the performing organization doesn't have procurement personnel then the project management team will have to have the experience, knowledge, and skills to fill these project procurement roles.
 - The procurement documents to be used (e.g. standard forms) and the format for contract statements of work.
 - The procedures for bid and proposal solicitation.
 - When and how independent estimates will be gathered.
 - Identified constraints and assumptions related to procurement processes.
 - How sellers will be managed, performance monitored, and what reporting and frequency will be required.
 - What insurance or performance bonds will be required and under what situations.
 - Milestones that need established in contracts.
 - What the procedures are for seller payments, vouchers, and reimbursements.
 - The frequency, responsibility, and guidelines for procurement audits.

- ☐ A make-or-buy analysis determines whether each project need will be made or provided by the project team or whether it will be sought from outside sources.
- ☐ Life cycle costs are an important element of make-or-buy analysis.
- ☐ When needs will be procured, Plan Procurements establishes the evaluation criteria, called the source selection criteria, that will be used to choose the best seller.
- ☐ Plan Procurements also establishes the statement of work, which provides the detailed objectives and requirements for the procurement need.
- ☐ Sellers can be publicly invited to submit bids or proposals through notices or advertisements or a qualified sellers list may be used.
- ☐ Bidder conferences provide a forum for all potential sellers to review the procurement documents and make sure they all understand what is needed.
- ☐ Bids or proposals are evaluated through different evaluation techniques using expert judgment , weighting systems, independent estimates, screening system, and an organization's seller rating system.
- ☐ The contract explicitly details all the deliverables, requirements, specifications, terms, and conditions of the buyer and seller relationship.
- ☐ The contract is the definitive legal document that establishes the obligations of the buyer and seller.
- ☐ Activities in Administer Procurements ensure that all parties are fulfilling their obligations.
- ☐ Seller performance and status monitoring is performed during procurement administration.
- ☐ A buyer-conducted performance review evaluates the seller's ability to fulfill its contractual obligations.
- ☐ If specified in the contract, the buyer can conduct inspections or audits of the seller's work processes.
- ☐ Contract change requests are submitted through the contract change control system.
- ☐ The contract change control system defines the procedures, review, and disposition process for contract change requests.
- ☐ Early termination procedures begin as a contract change request.
- ☐ The contract change control system is part of the PMIS.
- ☐ Disputes usually result in claims.
- ☐ Correspondence, payment requests, performance reports, and other relevant contract documentation is maintained in the records management system.
- ☐ Contract closure can begin once all obligations have been fulfilled and the contract deliverables verified and accepted.
- ☐ Contract closure may begin and conclude even if there are unresolved claims.

